Virtual Dressing Room

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Abstract: With recent advance in web technology, many online shopping websites have been emerged. Despite its advantages, however, online shopping presents certain drawbacks. One drawback is that it may be difficult for a person to visualize how a given article would look if worn by that person-owing to the rich variation in body size and shape, hair and skin color, etc., in the human population. Testing the fitness of clothes is highly important for both customer and trader. Our approach concentrate on how the selected garment fitted the user's body and how it will be appear as if he/she in real world. Trying clothes in clothing stores is usually a time-consuming activity. Besides, it might not even be possible to try-on clothes in such cases as online shopping. Our motivation here is to increase the time efficiency and improve the accessibility of clothes try on by creating a virtual dressing room environment. The implemented system introduced an advanced methodology which is presented for the purchase of clothing through a virtual fit on platform, which consumes far more less time than the normal process, making it easier for the both seller and customer. This provides a realistic behaviour for the suitability of the garment's details. The whole process starts from an image of the user which is captured from the webcam which then and there provides an environment of a virtual dressing room. Customers are able to select clothing designs from a range of different garments as they prefer and those can be tried onto the image which allows them to experience a live view of the outfit as if it worn on their own body. The primary aim of this project was to build up a compelling, interactive and highly realistic shopping experience via a desktop application providing the user a reliable and accurate service to access an environment of a virtual try on system.

Keywords: Virtual dressing room, Virtual TryOn, Visualization, Virtual fitting, trial, augmented reality, room.

I. INTRODUCTION

Due to the rapid growth of technology development, our daily life is heavily affected by smart systems which facilitates our activities. For instance, online shopping grew up very fast. People are getting more used to online shopping, online auctions, etc., to purchase their interested products. This way of transaction has become the main trend and it brings great convenience to customers. However, an issue for buying clothes online is that client cannot try the product before he/she get that product. The feeling after dressing on affects the client decision about buying the clothes. Therefore, there is an increasing demand to develop virtual dressing room to simulate the visualization of dressing. It is a common behavior for people to try clothes before shopping in life. Several ways canperform this. In physical stores, customers can try physical clothes and engage in real interaction and fitting, but have to put on and off them, thus wasting valuable time and effort. It is difficult and even impossible for some people to try some special clothes.

The purpose of the application is to make easier the process of trying clothes while shopping, which would provide comfort for both the vendorand the customer, Reducing the time and helping people to select a wide range of clothing were a motivation to make a program that helps in this area, so it has become important (very necessary) to make the process of trying and buying of clothes more comfortable, easier and more efficient. Moreover, the accelerating pace of development in modern technology – and the software programs – and their dramatic entry into life have led to the development of this application on a large scale. One of the main reasons behind this tremendous development in technology is the direct interaction between man and computer. Since it is related to several areas in the human-computer interaction, such as interaction for the purposes oflearning, entertainment, fields of medicine and e-commerce operations. E-commerce is one of the modern terms that have entered our daily life that they are used in many life activities that are related to the revolution ininformation and communication technology.

Problem Definition

The problem is trying and fitting clothes while shopping. The person hasto search and choose the clothes keeping in mind that the assistant will helphim or her. After picking the piece, he (or she) will try it inside the changing room (Virtual dressing room) to make his or her decision. This takes time and effort from both the assistant and the customer. However, with our application there is no reason to go through this traditional process.
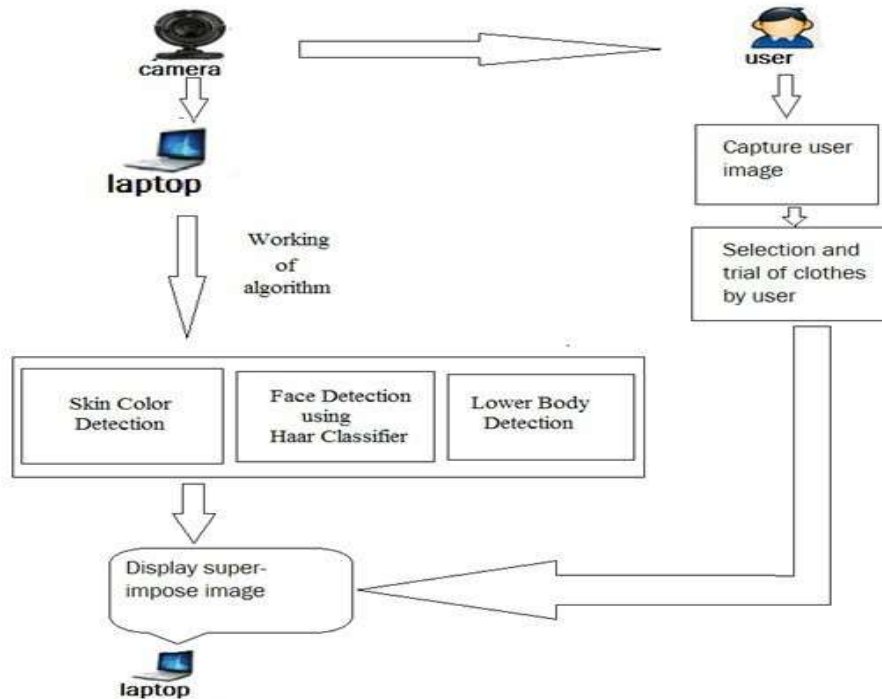
Fig : Context Diagram For Virtual Dressing Room

Motivation

Our motivation is to increase time efficiency and improve the accessibility of clothes try on by creating virtual dressing room environment .The system exchanges the color and the texture of a shirt while the person wearing the shirt can move freely in front of the mirror and even perform elastic deformations of the cloth like stretching and bending or move toward or away from the camera. Our aim is to build an interactive and highly realistic virtual machine on which the user can try cloths without wearing it actually. By using thisvirtual dressing room, the customer can see his picture with selected dress model. Then he decides whether to buy cloth or not. One of the primary goal of a virtual dressing room is to give a realistic visual experience of trying on different garments. Different materials have a different feel to them. For example, silk will move much for freely as compared to leather.

- Innovation in Online Retail Shopping – virtual trial rooms, first of its kind.

- Enriched Shopping Experience like never before !

- High Customer engagement for best choices in less time.

- High Sales turnover – enhanced profits !

- Helps customers in making their decisions faster better.

II. LITERATURE SURVEY

Human friendly interface design for virtual fitting roomapplications on android based mobile devices [2012]: An image processing design flow for virtual dressing room applications was presented. Detecting of reference points based on facedetection and augmented reality markers and super imposing the clothing over the user's image.

Augmented dressing room with tag-based motion tracking and real-time clothes simulation [2005]:A new augmented reality concept for dressing rooms was introduced. It enables the customers to combine easy simulated try onwith a tactile experience of the fabrics.The ARDressCode application features captures and provides an AR video stream on AR mirror withthe selected piece of clothes mixed in and fitted to the customer body.

A body and garment creation method for an Internet basedvirtual fitting room [2002]: Garment modelling which is based on creating virtual bodies by using standard measurements was presented.A web browser embeddedin real time platform was used as interface to the internet and applied successfully.

System Design :

The application begin treatment process for user image wish standing in front of the camera , but we not touching for some special cases that we occur for example : standing tow person in front of the camera , to resolvethis problem holograph placebo is used, which stands inside a user is consistent with and the determined whether The user is standing inside theholographic fully and correctly by five point distributed on surround. So, the percentage devotion is used at the beginning , was finding the proportion of basic deviation of the camera ,and then rates and fixed rates the output depends on the predefined threshold value indicate whether it isaccurate enough.
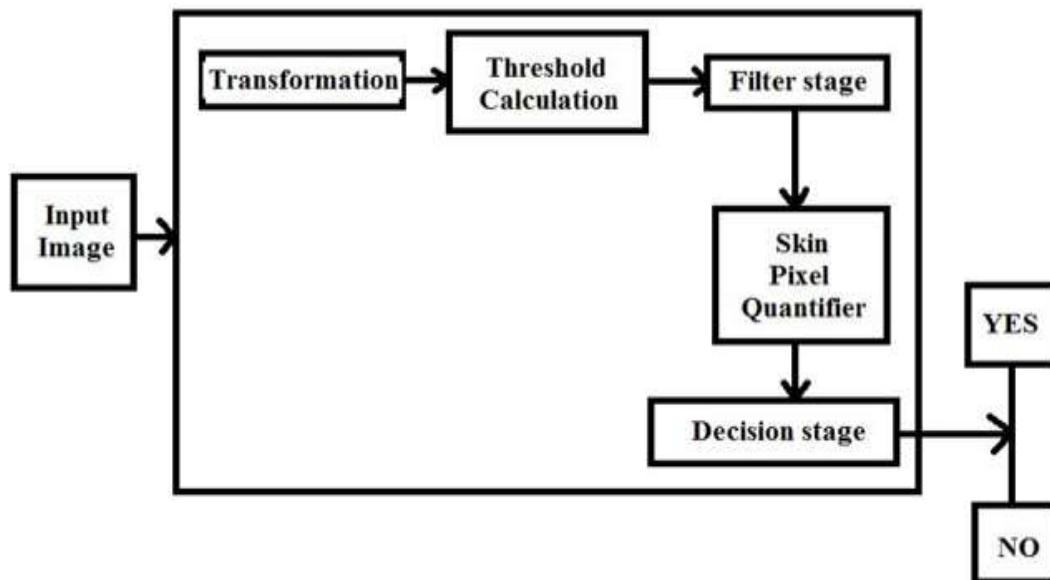

Fig : System Design

Proposed System:

 User Extraction/Detection from the Input Image By separating user area user allows creating environment and layered it onto a virtual manner in the user interface. Also, for skin detection it is also useful and also useful to find out region of interest. The user id and depth image are taken. At the time of working device, depth image finds theway to fit garment to user.Human Body Detection: The main function of this step is to determinewhether human body appears in iven image, and where these are located at. The expected outputs of this step are patches containing each body parts in the input image. In order to create more organic structure recognition system a lot of study and simple to style, body alignment is performed to justify the scales and orientations of the patches.

Modules of the proposed system:

Homepage : First Page that appears on Site. It contains way to other modules like login ,register and try check.

Login : Registered User can login to their account with their username and password.

Register : This is Mandatory for user to register himself/herself on the website and use corresponding details for login purpose.

Add to cart : Customer can add their products to the cart and then can try and checkout.

Try and Check : Added clothes in the cart can be try by user with the help of try option.

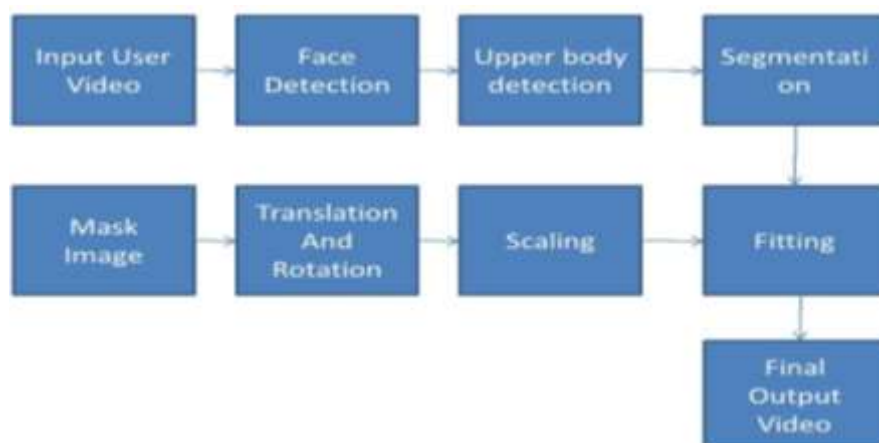**Pay and buy :** User Can place order and pay the bill.

Fig : Flow of System

Future Scope :

- The application with the help of the customer (or the person) will carryout the process of trying the clothing fast and easily, and then selectingthe best for him or her, which will, consequently, help us to take advantage of the enormous capacity provided by the science of interaction between man and computer.

- One positive service this application provides specially to females is that they do not have to enter a changing room that may be exploitedby some assistants in peeping (or other criminal acts).

- The application approach is to replace the body image by garment meshsurface through garment image, based on the points taken from the frontview.

III. CONCLUSION

An application (VDRS) that realistically reflect the look and feel is implemented. The application with the help of the customer (or the person)will carry out the process of trying the clothing fast and easily, and then selecting the best for him or her, which will, consequently, help us to take advantage of the enormous capacity provided by the science of interaction between man and computer Human measurement generated according to user body will stand in front of the Kinect . Flexible and look real cloth model for user to wear. After applying the cloth model with the improved performance of joint position, this application will become an acceptable application to provide a virtual fitting room for user to utilize. An easy control, user friendly and fashionable body motion based GUI for user willbe generate. Many interesting and useful functionalities for user will use inour application.

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